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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,785	09/15/2003	Simon Berners Hall	358261-991100	9521
26379	7590	12/20/2007	EXAMINER	
DLA PIPER US LLP 2000 UNIVERSITY AVENUE E. PALO ALTO, CA 94303-2248			WALKER, KEITH D	
			ART UNIT	PAPER NUMBER
			1795	
			MAIL DATE	DELIVERY MODE
			12/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/662,785	Applicant(s) HALL ET AL.	
	Examiner Keith Walker	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 25,26 and 28-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 25,26 and 28-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

Claims 25, 26 & 28-40 are pending examination as discussed below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 25, 26 & 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,824,434 (Kawakami) in view of US Patent 4,297,249 (Przybyla).

Kawakami teaches the process of making an anode electrode by adding a precipitated zinc hydroxide with a salt of an acid such as sodium phosphate (18:1-25).

Kawakami is silent to using a fatty acid or graphite in making the electrode.

Przybyla teaches adding an alkali metal salt of a fatty acid, including the metal of potassium and a fatty acid of stearic acid, forming potassium stearate (5:26-33).

Graphite is added to the mixture to act as a lubricant (6:65-68). The metal salt of the fatty acid promotes a reduction of oxygen evolution and also acts as a lubricant by lowering the internal friction of the powder.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the electrode mix of Yano with the alkali

metal salt of a fatty acid and graphite to aid in the lubrication of the powder as it is formed, which promotes a more consistent and uniform density to the electrode.

2. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,824,434 (Kawakami) in view of US Patent 4,297,249 (Przybyla) as applied to claim 30 above, and further in view of US Patent 4,086,392 (Mao).

The teachings of Kawakami and Przybyla as discussed above are incorporated herein.

Kawakami is silent to using zinc sulfate as the acid salt.

Mao teaches adding zinc sulfate to the electrode in order to improve the float current. Addition of the zinc sulfate decreases the float current during constant voltage overcharge (Abstract; 3:25-55).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the acid salt of Kawakami with the zinc sulfate of Mao to improve the battery performance by decreasing the float current.

3. Claims 32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,824,434 (Kawakami) in view of US Patent 4,297,249 (Przybyla) as applied to claim 30 above, and further in view of US Patent 4,146,685 (Tucholski)

The teachings of Kawakami and Przybyla as discussed above are incorporated herein.

Kawakami and Przybyla are silent to using zinc stearate.

Tucholski also teaches the use of stearates, such as zinc and calcium, as a lubricant or stabilizer and adds the stearates in the amount of about 0.5% (Table 1). Only a minor amount of the stearate is added to mixture to improve the flow and molding of the electrode but not detract from the electrical properties by lowering the density of the active material. Furthermore, it would have been obvious to one having ordinary skill at the time of the invention to vary the amount of the stearate to find the amount needed to promote proper electrode molding and formation, since it is held that discovering an optimum value of a result effective variable involves only routine skill in the art (*MPEP 2144.05*).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the electrode mixture of Kawakami and Przybyla with the amounts presented in Tucholski to improve the molding and forming of the electrode without diminishing the electrical density of the electrode.

4. Claims 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,824,434 (Kawakami) in view of US Patent 4,297,249 (Przybyla) and US Patent 4,146,685 (Tucholski) as applied to claim 32 above, and further in view of US Patent 5,688,616 (Yamawaki) and US Patent 4,086,392 (Mao).

The teachings of Kawakami, Przybyla, Tucholski and Mao as discussed above are incorporated herein.

Kawakami is silent to using calcium nitrate and calcium stearate.

Tucholski also teaches the use of stearates, such as zinc and calcium, as a lubricant or stabilizer and adds the stearates in the amount of about 0.5% (Table 1). Only a minor amount of the stearate is added to mixture to improve the flow and molding of the electrode but not detract from the electrical properties by lowering the density of the active material. Furthermore, it would have been obvious to one having ordinary skill at the time of the invention to vary the amount of the stearate to find the amount needed to promote proper electrode molding and formation, since it is held that discovering an optimum value of a result effective variable involves only routine skill in the art (*MPEP 2144.05*).

While Tucholski teaches the use of the calcium stearate, the use of calcium nitrate as a precursor is not taught. As discussed above, Mao teaches using zinc sulfate in the electrode. Yamawaki teaches it is known in the art that calcium nitrate and zinc sulfate are substitute salts for use in a battery (7:47-51).

It would have been obvious to one skilled in the art at the time of the invention to substitute the calcium nitrate for the zinc sulfate and then with the stearic acid, produce the calcium stearate, since it is held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice (*MPEP 2144.07*).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the electrode mixture of Kawakami and Przybyla with the amounts presented in Tucholski to improve the molding and forming of the electrode without diminishing the electrical density of the electrode.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith Walker whose telephone number is 571-272-3458. The examiner can normally be reached on Mon. - Fri. 8am - 5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K. Walker

MARK RUTHKOSKY
PRIMARY EXAMINER



12-15-07